STUARTS CROSSING SHORELINE STABILIZATION

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FOR
SPECIAL PROVISIONS

PROJECT SUMMARY

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction, Adopted April 1, 2016," the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," the latest edition of the "Standard Specifications for Water and Sewer Main Construction in Illinois," the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, and the "Supplemental Specifications and Recurring Special Provisions, adopted April 1, 2016," which apply to and govern the construction of the project, and in case of conflict with any part, or parts, of said Specifications, the said Special Provisions shall take precedence and shall govern.

CONTRACTOR will be responsible for furnishing all materials, equipment, labor and incidental items necessary for the implementation and maintenance of the **Stuarts Crossing Shoreline Stabilization** at the locations shown on the drawings.

DESCRIPTION

The Improvements project shall generally consist of the following:

1.) Earth excavation/fill to achieve target cross section geometry, landscape elevation contours;
2.) Installation of rock toe, coir fiber roll, stone outcroppings along with and including associated erosion control measures;
3.) Tree removal, plug planting, and restoration seeding;
4.) 3 years of ecological management; and
5.) All other collateral work such as restoration.

Substantial completion, which includes all earth excavation, installation of rock toe, coir fiber roll, stone outcroppings, and seeding, and sewer improvements shall be completed by **October 31, 2016**. The date of final completion is **October 31, 2020**. Substantial completion does not include plug installation, as this shall occur in the Spring/Summer 2017.

These Special Provisions apply to the proposed work identified as **Stuarts Crossing Shoreline Stabilization.** In the event of conflict with any part of the standard specifications and requirements (see STANDARD SPECIFICATIONS below), CONTRACTOR shall coordinate with OWNER and/or ENGINEER to determine governing specification.

CONTRACTOR QUALIFICATIONS

To qualify as a responsible bidder for the project, a Bidder must demonstrate that they and any chosen subcontractor's meet the minimum experience requirements specified herein and provide references for corresponding projects. The expectation is that the subcontractors as submitted by the Bidder within these qualifications will be used as the respective project team.

Work associated with this project involves the use of specialized equipment within a pond system. The work at all levels of involvement is to be performed by qualified firms with individuals having the expertise necessary to perform the assigned tasks with the skill and precision appropriate to work in this environment.

It is the intent of the OWNER to award a contract only to a bidder who furnishes satisfactory evidence that it has the requisite experience, ability, equipment, staffing, and sufficient capital and facilities to perform the work successfully and within the time specified in the contract documents.

- Qualified CONTRACTORS must provide two (2) examples of projects, each being a minimum of $250,000 where while serving as "General Contractor", substantially contributed (defined as greater than 60% of the work) and caused to be completed said projects within the past seven (7) years which have achieved ecological vegetative performance standards on a minimum of 5 contiguous acres and received "sign-off" from

all applicable regulatory agencies. A qualified CONTRACTOR must not have defaulted on any ecological management vegetation performance standard within the last five (5) years.

- Qualified CONTRACTORS must provide two (2) examples of projects completed in the past 5 years demonstrating earth excavation with cut and fill requirements of a minimum 1,000 cubic yards and subsequent earthwork shaping experience and proficiency to achieve target contour elevations, cross section geometry and drainage way specifications. Additional demonstrated examples of experience and proficiency in the installation of a minimum of 100 lineal feet storm sewer systems shall be provided.

- Qualified CONTRACTORS must demonstrate prior experience working in natural areas with sensitive resources, specifically plant installation projects within river systems. Due to the complexity and size of the project, the City will accept bids only from bidders that have successfully completed one or more restoration projects involving the installation of at least 3,000 wetland plants within river, wetland, or native pond systems. Experience in the Chicago region is preferred and project experience shall be within the last five years.

- Qualified CONTRACTOR must have prescribed burns experience consisting of at least one (1) contiguous acre. Project experience must be within the last 5 years.

- Qualified CONTRACTOR must demonstrate completion of restoration project with a stream or pond reach equaling at least 1,000 feet of streambank or shoreline treatments.

- Qualified CONTRACTOR shall demonstrate they have worked on similar lake and stream restoration projects, with experience of in-stream work under a minimum of 20 cfs low flow conditions while creating bank stabilization and revetment features comprised of rock gradation type materials and coir fiber matting transitions into adjacent overbank and floodplain areas while maintaining proper sediment and erosion control measures as regulated.

CONTRACTOR STAFF QUALIFICATIONS

A. Prospective CONTRACTORS must have a qualified Ecologist or Field Supervisor on staff to supervise the day to day onsite implementation of each phases of the project. This individual will work closely with OWNER, ENGINEER and/or WETLAND CONSULTANT. He/she will be expected to keep the crew working in an efficient and safe manner with appropriate Personal Protective Equipment worn as applicable, make sure the proper equipment is available and in good working order when needed by the crew. This person shall be a spokesperson on behalf of the CONTRACTOR, must have five (5) years' experience with Regional Midwest and or Southwest Great lakes ecosystems/habitat types, shall have at minimum 3 years of supervision of restoration crews, at least two (2) years' experience regarding plant installation within riverine type hydrologic conditions, working knowledge and understanding of basic ecology and restoration principles, working knowledge of the latest most effective and selective methods/materials/herbicides for providing quality ecological restoration, understanding of effective timing for successful target species application methods, shall possess a current and valid State of Illinois Pesticide Applicator or Operator License, and shall demonstrate extensive and accurate field identification skills of local flora. Field supervisor shall directly perform in-field supervision of all aspects of ecological management including planting crews, determining suitable hydrologic conditions for all planting of specified plant species, removal of invasive species, and control of invasive species, and ecological management of site. The field supervisor will be required to be onsite during all aspects of the project implementation.

B. Prospective CONTRACTORS must have adequate numbers of qualified Field Crew on staff to implement the day to day onsite implementation of each phases of the project and achieve deadlines. All field crew shall have demonstrated experience with Regional Midwest and or Chicago Wilderness region with ecosystems/habitat type restoration, working knowledge and understanding of basic ecology and restoration principles, working knowledge of the latest most effective and selective methods/materials/herbicides for providing quality ecological restoration, understanding of effective timing for successful target species application methods, shall possess a current and valid State of Illinois Pesticide Operator License, and shall demonstrate extensive and accurate field identification skills of local and invasive flora. Field crew shall perform installation of seed and plugs, removal of invasive species, herbicide control of invasive species, and ecological management of site. The field crew will be under the direct supervision of the field supervisor/foreman during all aspects of the project implementation.

C. Prospective CONTRACTORS must have a qualified Burn Boss on staff to supervise the implementation the prescribed burning and brush pile burning aspects of the project. This person shall at minimum have a valid Illinois Certified Prescribed Burn Manager Certificate issued by IDNR and successfully completed NWCG S290 training, be a spokesperson on behalf of the CONTRACTOR prescribed burning, must have five (5) years' experience with Regional Midwest and/or Chicago Wilderness Region with ecosystems/habitat type prescribed burning, shall have at minimum 3 years of supervision of prescribed burn crews in similar acreage, fuel loads and conditions, and an in-depth working knowledge and understanding of prescribed burn and fire suppression principles. Field supervisor shall directly perform in-field supervision of all aspects of prescribed burning including establishment of burn breaks, ignitions, smoke management, suppression, and mop-up. The burn boss will be required to be onsite during all aspects of the prescribed fire.

D. Prospective CONTRACTORS must have adequate numbers of qualified Prescribed Burn Crew on staff to implement the prescribed burning aspects of the project. All burn crew shall have shall have successfully completed the National Wildfire Coordinating Group S/130 and S/190 training courses or the Chicago Wilderness Midwest Ecological Prescription Burn Crew Member training course, working knowledge and understanding of basic prescribed burn principles, 60% of the prescribed burn crew shall have two (2) years' experience with Regional Midwest and or Southwest Great lakes ecosystems/habitat type prescribed burning, The prescribed burn crew will be under the direct supervision of the burn boss during all aspects of the prescribed burn.

CONTRACTORS shall indicate their qualifications (corporate experience and references as well as individual experience) on the form contained in the Bidding Documents and shall submit the competed form and supporting documentation with their bids.

PROJECT LIMITS

The Stuarts Crossing Shoreline Stabilization project area is located at the southeast corner of Stuarts Drive and Foxfield Drive in St. Charles, Illinois. The project limits will be clearly stated during the Pre-Bid meeting and are generally depicted on the plans. Accessible routes to specified work areas are identified on the plans. Access Routes shall be identified in the field between the OWNER and CONTRACTOR during the pre-construction field meeting.

CONTRACTOR ADVISORIES

A. CONTRACTOR further acknowledges that in order for the CONTRACTOR to comply with reasonably expected performance of sediment controls designed within the Plan details.
B. CONTRACTOR shall locate and be familiar with all property boundaries and easements in the field. The area to be included in this work shall not exceed the right-of-way, existing easements or property boundary unless a properly executed right-of-entry has been authorized by the owner of record. OWNER shall have final determination of any limits in question.

STANDARD SPECIFICATIONS

The proposed work shall be constructed in accordance with the material and installation requirements of the Illinois Department of Transportation's (IDOT) "Standard Specifications for Road and Bridge Construction," latest edition, including all applicable current supplemental specifications and special provisions; except where said requirements are modified by these project specific Special Provisions.

Standards for traffic control and protection shall be in accordance with appropriate principles and requirements of the IDOT "Illinois Manual on Uniform Traffic Control Devices," latest edition and the IDOT Standard Specifications for Traffic Control Items," latest edition; except where said requirements are modified by these project specific Special Provisions.

DEFINITION OF TERMS

In addition to the definitions included in Section 1 of the General Conditions of the Contract, the following shall be added:

OWNER:	City of St. Charles
ENGINEER:	Engineering Resource Associates, Inc.
WETLAND CONSULTANT:	Engineering Resource Associates, Inc.

SP-1. PRE-CONSTRUCTION VIDEO TAPING

DESCRIPTION

The Contractor shall prepare pre-construction video documentation of all features in the areas affected by construction in the form of two color TV videos in DVD format. All video cameras, recorders, tapes, accessories and appurtenances shall be high quality DVD format equipment. Pre-construction video documentation shall consist of a series of high-resolution color audio-video digital images showing all areas affected by construction. All pertinent exterior and interior features within the construction's zone of influence shall be shown in sufficient detail to document its pre-construction condition. Features to be shown shall include but are not be limited to pavements, curbs, driveways, sidewalks, gravel trails and roads, buildings, landscaping, trees, shrubbery, fences, light posts, interior features and equipment, etc. View orientation shall be maintained by audio commentary on the audio track of each videotape to help explain what is being viewed. The recording of the video shall be done by a competent and professional person familiar with this type of activity.

The pre-construction videotaping shall be completed after the initial walkthrough and two copies of the DVDs submitted to the Engineer before commencing with any construction activities, including material delivery.

BASIS OF PAYMENT

Payment for PRE-CONSTRUCTION VIDEO TAPING shall be at the contract lump sum price.

END OF SPECIAL PROVISION #1

SP-2. SITE ACCESS

DESCRIPTION
Construction traffic access to the site must be limited to area agreed upon by the Owner and Contractor during the pre-construction meeting. One (1) primary Construction Entrance Access and Staging Area will be designated for the CONTRACTOR to facilitate the planned Work. The Construction Staging Area is designated on the Plans. The Construction Staging Area shall be used for equipment mobilization, storage, staging and any material delivery, storage and stockpiling if applicable.

Additional or alternative access locations shall be determined in the pre-construction on-site meeting and will require approval of OWNER.

Access shall be in accordance with TRAFFIC CONTROL AND PROTECTION (SP-5), STREET CLEANING (SP-10) and STABILIZED CONSTRUCTION ENTRANCE (SP-11). The CONTRACTOR shall not park any vehicles or block traffic on the public roadway and shall provide appropriate Illinois Department of Transportation (IDOT) and/or Kane County Division of Transportation (KDOT) signage for vehicles leaving and entering the site. All public roadways shall be kept clean of any debris from site work and all posted weight limits are to be respected.

BASIS OF PAYMENT
Access shall not be paid for separately but shall be included in the cost of the other items within these documents.

END OF SPECIAL PROVISION #2

SP-3. SITE PREPARATION

DESCRIPTION
The project area is home to various types of natural resources. Precaution shall be used to prevent damage to existing conditions to remain, such as vegetation, trees, animal habitat, and other natural features in or adjacent to the limits of the proposed improvements. CONTRACTOR will be liable to the OWNER for all loss and damage suffered due to impact to the existing natural features other than activities shown on the Contract Drawings.

REPLACEMENT OF PLANT MATERIAL
Any existing vegetation (trees, shrubs, plants, etc.) that are damaged, other than those that are proposed to be removed in accordance with these Contract Documents, must be replaced per the requirements of the OWNER.

MAINTENANCE OF EXISTING UTILITIES
Prior to commencing work, the CONTRACTOR, at his own expense, shall determine exact locations of existing structures which are within the proposed construction limits.

The CONTRACTOR is responsible for notifying the utility companies of his intention to begin work. The CONTRACTOR shall also call J.U.L.I.E. at 1-800-892-0123 to mark the location of underground utilities (48 hours prior to commencing the work). CONTRACTOR shall notify all potentially impacted utility companies prior to commencement of work and immediately notify ENGINEER and OWNER of any potential conflicts.

The CONTRACTOR shall take the necessary precautions when working near or above existing utilities to protect these utilities from any damage resulting from his operations. All work and material necessary to repair any existing utilities damaged due to non-compliance with this provision shall be provided, as directed by the ENGINEERS, in accordance with Section 550 of

the Standard Specifications for Road and Bridge Construction, at the CONTRACTOR'S expense with no extra compensation being allowed. All repairs shall be completed with the least possible delay to the existing utility. Should CONTRACTOR disturb, discount, or damage any utility or any structure, all expenses of whatever nature arising from such disturbance or the replacement and/or repair thereof shall be borne by CONTRACTOR, including any expenses associated with a project delay.

The CONTRACTOR shall utilize a joint meet that includes the OWNER and the ENGINEERS. The requirements to satisfy the conditions stated herein shall be considered as included in the contract bid prices and no extra compensation will be allowed.

EXISTING PAVEMENT AND CURB

Description of Work: The CONTRACTOR shall take the necessary precautions when working on and near the existing pavement and curb adjacent to the construction limits.

All work and material necessary to repair any existing pavement and curb damaged due to non-compliance outside of the designated limits or scope of the project shall be provided, as directed and approved by the ENGINEER, in accordance with applicable sections of Division 400 and Division 600 of the Standard Specifications for Road and Bridge Construction, at the CONTRACTOR'S expense with no extra compensation being allowed.

NOTIFICATION

Give written notification of damaged plants and structures to OWNER and/or ENGINEER.

REPLACEMENT OF PLANT MATERIAL

Any existing vegetation (trees, shrubs, plants, etc.) that are damaged, other than those that are proposed to be removed in accordance with these Contract Documents, must be replaced per the requirements of the OWNER, and/or permitting agencies.

EXISTING UTILITIES

Unless otherwise indicated, all utilities and structures of any nature, whether below or above ground that may be affected by the work, shall be protected and maintained by CONTRACTOR and shall not be disturbed or damaged during the progress of the work. Should CONTRACTOR disturb, discount, or damage any utility or any structure, all expenses of whatever nature arising from such disturbance or the replacement and/or repair thereof shall be borne by CONTRACTOR, including any expenses associated with a project delay. CONTRACTOR shall notify all potentially impacted utility companies prior to commencement of work and immediately notify ENGINEER and OWNER of any potential conflicts.

BASIS OF PAYMENT

Site preparation shall not be paid for separately but shall be included in the cost of the other items within these documents.

END OF SPECIAL PROVISION #3

SP-4. MOBILIZATION

DESCRIPTION

This work shall consist of preparatory work and operations necessary for the movement of personnel, equipment, materials, supplies, and incidentals to the project site for all work or operations which must be performed or costs incurred when beginning work on the project. This work applies to all work associated with this project. No separate mobilization is allocated for the wetland plant installation or tree removal.

BASIS OF PAYMENT

Payment for MOBILIZATION shall be at the contract lump sum price.

END OF SPECIAL PROVISION #4

SP-5. TRAFFIC CONTROL AND PROTECTION

DESCRIPTION

TRAFFIC CONTROL AND PROTECTION shall apply to all roads, parking lots, service drives, and walkways. This work shall include furnishing, installing, maintaining, relocating and removing all traffic control devices used for the purpose of regulating, warning or directing traffic and pedestrians during the construction or maintenance of these improvements.

All traffic control devices shall conform to the requirements of the Illinois Manual on Uniform Traffic Control Devices. Traffic Control Devices include: signs and their supports, signals, pavement markings, barricades with sand bags, channelizing devices, warning lights, arrowboards, flaggers, or any other device used for the purpose of regulating, warning or guiding traffic through the construction zone. Prior to start of construction, the CONTRACTOR shall provide a traffic control plan for review and approval by the ENGINEER.

The Contractor shall be responsible for the proper location, installation, and arrangement of all traffic control devices. Special attention shall be given to advance warning signs during construction operations in order to keep lane assignment consistent with barricade placement at all times. The Contractor shall cover all traffic control devices that are inconsistent with detour or lane assignment patterns.

Construction signs referring to daytime lane closures during working hours shall be removed or covered during non-working hours.

Any signs or barricades that are left in place overnight shall be equipped with flashing warning lights.

The Contractor shall furnish, erect and maintain advisory speed plates or signs. Placement of these plates or signs shall be in accordance with the Manual on Uniform Traffic Control Devices and as directed by the ENGINEER. The advisory speed plates or signs shall carry the legend 15 M.P.H. and shall conform to Manual on Uniform Traffic Control Devices.

The Contractor shall coordinate all traffic control work on this project with adjoining or overlapping projects, including barricade placement necessary to provide a uniform traffic detour pattern. When directed by the ENGINEER, the CONTRACTOR shall remove all traffic control devices which were furnished, installed and maintained by him under this contract, and such device shall remain the property of the CONTRACTOR. All traffic control devices shall remain in place until specific authorization for relocation is received from the ENGINEER.

The CONTRACTOR shall ensure that all traffic control devices installed are operational 24 hours a day, including Saturdays, Sundays and holidays.

To ensure a prompt response to situations involving the adequacy and integrity of the work zone traffic control devices, the CONTRACTOR shall provide a telephone number where a responsible individual can be contacted on a 24-hour-a-day basis. When the ENGINEER is notified or determines a deficiency exists, (s)he shall be the sole judge to whether the deficiency is an immediate safety hazard. The CONTRACTOR shall dispatch sufficient resources with 2 hours of notification to make needed corrections of deficiencies that constitute an immediate safety hazard. Other deficiencies shall be corrected within 12 hours. If the CONTRACTOR fails to restore the required traffic control and protection within the time limits specified above, the ENGINEER will impose a daily monetary deduction for each 24-hour period (or portion thereof) the deficiency exists. This time period will begin with the time of notification to the Contractor and end with the ENGINEER's acceptance of the corrections. For this project, the daily deduction will be calculated as described in the following paragraph. In addition, if the CONTRACTOR fails to respond, the ENGINEER may correct the deficiencies and the cost thereof will be deducted from monies due or which may become due the CONTRACTOR. This corrective action will in no way relieve the CONTRACTOR of his/her contractual requirements or responsibilities.

When traveling in lanes open to public traffic, the CONTRACTOR's vehicles shall always move with and not against or across the flow of traffic. These vehicles shall enter or leave work areas in a manner that will not be hazardous to, or interfere with, traffic and shall not park or stop except within designated work areas. Personal vehicles shall not park within the right-of-way except in specific areas designated by the ENGINEER.

Due to some complexity to traffic during construction within the project corridor, the OWNER may request the CONTRACTOR to divert traffic flow accordingly from time to time or remove/ bag and reinstall signage. The CONTRACTOR shall comply with these requests and consider the cost of this work in his bid price for this item.

The location of fencing along the sidewalks adjacent to the project will be determined during the preconstruction meeting. All fencing associated with pedestrian traffic control will be paid for as part of TRAFFIC CONTROL AND PROTECTION.

BASIS OF PAYMENT

This work will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION, which price shall be payment in full for all work mentioned above and for all labor, materials, transportation, handling and incidentals necessary to furnish, install, maintain, and remove all traffic control devices indicated in the plans and specifications. No additional compensation will be allowed.

END OF SPECIAL PROVISION #5

SP-6. CONSTRUCTION LAYOUT & AS-BUILT SURVEY

DESCRIPTION

This work shall consist of furnishing a construction survey crew and all necessary equipment, materials, tools, and expertise needed for construction surveying, layout, and preparation of As-Built Plans. The CONTRACTOR shall be required to furnish and place construction layout stakes for this project. The ENGINEERS will provide adequate reference points and benchmarks as shown on the plans. Any additional control points set by the ENGINEERS will be identified in the

field to the CONTRACTOR and all field notes will be kept in the office and be the property of the ENGINEER.

The CONTRACTOR shall provide field forces, equipment and material to set all additional stakes for this project, which are needed to establish reference points and any other horizontal or vertical controls, including supplementary benchmarks, necessary to secure a correct layout of the work. Stakes for line shall be set at sufficient station intervals (not to exceed 50 feet) to assure substantial conformance to the plan lines. The CONTRACTOR will not be required to set additional stakes to locate a utility line which is not included as a pay item in the contract nor to determine property lines between private properties.

The CONTRACTOR shall be responsible for having the finished work substantially conform to the lines and dimensions called for in the plans. Any inspection or checking of the CONTRACTOR'S layout by the ENGINEERS and the acceptance of all or any part of it shall not relieve the CONTRACTOR of his/her responsibility to secure the proper dimensions. The CONTRACTOR shall exercise care in the preservation of stakes and benchmarks and shall have them reset at his/her expense when any are damaged, lost, displaced or removed or otherwise obliterated.

Responsibility of the ENGINEERS:

a) The ENGINEER will provide a delineation of the limits of construction. These limits shall be verified and agreed upon at the preconstruction meeting to be in conformance with the plans. Any vegetation outside of these limits shall be saved. Additional vegetation to be saved within the construction limits shall also be defined by the ENGINEER, and/or OWNER at the preconstruction meeting.
b) The ENGINEER will make arrangements and take areas and lengths from which the various pay items are to be measured unless otherwise noted in these Special Provisions.
c) Where the CONTRACTOR, in setting construction stakes, discovers discrepancies, the ENGINEER will check to determine their nature and make whatever revisions are necessary in the plans. Any additional re-staking required by the ENGINEER will be the responsibility of the CONTRACTOR. The additional re-staking done by the CONTRACTOR will be paid for in accordance with 109.04 of the Standard Specifications.
d) The ENGINEER will provide electronic files of the design plans in AutoCAD format to the CONTRACTOR for use in construction layout.
e) It is not the responsibility of the ENGINEER, except as provided herein, to check the correctness of the CONTRACTOR'S stakes.
f) At the completion of construction the ENGINEER will be responsible to prepare as-built drawings in compliance with the requirements of City of St. Charles, which are to be signed and sealed by a Land Surveyor registered in the State of Illinois. Additionally, these drawings shall be provided in electronic format for the OWNER.

Responsibility of the CONTRACTOR:

a) All work shall be in accordance with normally accepted self-checking surveying practices. Field notes shall be kept in standard survey field notebooks and those books shall become the property of the ENGINEER at the completion of the project. All notes shall be neat, orderly and in accepted form.

All survey work for the OWNER shall meet the following standards.

- The completed work must be submitted in both hard copy and digital format, which includes, three original reproducible bond copies and an electronic drawing file format, (AutoCAD Civil 3D 2007 or later), and a space or comma delimited text file, containing raw data in the form of (PENZD).
- The .dwg file must have X,Y and Z coordinates attached to all points and contours and shall be tied into the Illinois State Plane Coordinate System NAD 83 East Zone

U.S. Survey Foot. If data is not acceptable to City staff, meaning, not meeting the following specifications, OWNER reserve the right to return data to CONTRACTOR until it is corrected to meet the following specifications with no further compensation due consultant.

The drawing shall meet the following specifications (as required per contract):

- Drawings shall note all dimensions and elevations in imperial (foot) scale to the nearest .01 foot.
- Include legend of symbology and abbreviations used in drawing.
- Show all existing and newly constructed improvements per construction project specifications. All items to be included but not necessarily limited to; vegetation, one foot contours, high points, low points, storm sewer, and water piping size and type, manhole rims & pipe invert elevations, culvert inverts, pavement delineation and type, fences, and ALL existing utilities.
- Record drawings (AS-BUILTS) and Legal Descriptions as required.
- Show all trees 6" diameter and larger within survey site with a pre-defined tree block symbol.
- Capture mean elevation of water in any excavation, well and or nearby body of water.
- Do not break contour lines for elevation text nor shall text interfere with any mapping lines (do not trim to accommodate text).
- All contour lines should be continuous/closed polylines with respective “Z” coordinates.
- Spot elevations should have “Z” elevations and represented as a CIVIL 3D AutoCAD COGO point to the nearest .01 foot.
- All text associated with a spot elevation should match that elevation and be on a separate text layer.
- Color and line type shall be “by layer”.
- Tie in two quarter section corners (X,Y,Z) into survey loop, if in close proximity to project site.
- Set at least one permanent benchmark on site for each 4 acres using an iron pipe marked with lath and with a description and with COGO point in drawing.
- Note all control points. These should be shown and referenced in drawing using COGO points.
- All entities shall be drawn on the world coordinate system (do not change U.C.S. origin).
- Scale of drawing shall be 1:1 and all symbols shall be inserted at a scale of 1,1,1.
- All drawing entities (lines, polylines, blocks, etc.) shall be inserted in model space.
- All title blocks, legends, north arrow, etc. shall be inserted in paper space.
- All paper and Mylar copies of survey shall be signed and sealed by a professional land surveyor.
- The OWNER or CITY ENGINEER can furnish an AutoCAD .dwg file, Release 2014, or 1992 basemap for use as reference, on request..
- Locate 100 yr. flood, and floodway level of streams or adjacent bodies of water.
- Show all easements evidenced by a record document or evident in the field

Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Data Accuracy, FGDC-STD-007.3-1998

Objectives: The objective is to facilitate sharing and interoperability of geospatial data by providing a flexible and inclusive standard for testing and reporting accuracy of maps and geospatial data.

Scope: The National Standard for Spatial Data Accuracy (NSSDA) implements a well-defined statistic and testing methodology for positional accuracy of maps and geospatial data derived from sources such as aerial photographs, satellite imagery, or maps. Accuracy is reported in ground units. The testing methodology is comparison of data set coordinate values with coordinate values from a higher accuracy source for points that represent features readily visible or recoverable from the ground. While this standard evaluates positional accuracy at points, it applies to geospatial data sets that contain point, vector, or raster spatial objects. Data content standards, such as FGDC Standards for Digital Orthoimagery and Digital Elevation Data, will adapt the NSSDA for particular spatial object representations.

The standard insures flexibility and inclusiveness by omitting accuracy metrics, or threshold values, that data must achieve. However, agencies are encouraged to establish "pass-fail" criteria for their product standards and applications and for contracting purposes. Ultimately, users must identify acceptable accuracies for their applications.

Ground coordinates of points established according to Federal Geodetic Control Subcommittee (FGCS) draft Standards for Geodetic Control Networks and process specifications are used in the National Spatial Reference System (NSRS) control network. NSRS ground control may be used to reference project control surveys to a common geo-reference system. The accuracy of spatial data derived from control surveys is expressed using the NSSDA. The NSSDA may also be related to FGCS Standards for Geodetic Networks by using NSRS points to test the accuracy of geospatial data. Both the NSSDA and Standards for Geodetic Networks will be integrated into a multipart FGDC Geospatial Positioning Accuracy Standard.

BASIS OF PAYMENT
This work will be paid for at the contract lump sum price for CONSTRUCTION LAYOUT AND AS-BUILT SURVEY which will include all labor, materials, transportation, and incidentals necessary to furnish, install, maintain, replace, and relocate all control and stationing points for the duration of the project as well as the preparation and delivery of As-Built Drawings.

END OF SPECIAL PROVISION #6

SP-7. SILT FENCE

DESCRIPTION
This work consists of furnishing and installing a silt fence in accordance with Code 920 of the Illinois Urban Manual. The fence shall be constructed in accordance with the applicable provisions of Section 280 of the Standard Specifications.

CONSTRUCTION REQUIREMENTS:
The fence shall be supported on posts at least 24 inches in length and spaced on 8 foot centers. The bottom of the fabric shall be installed in a backfilled trench a minimum of 6 inches deep and securely attached to the post by a method approved by the ENGINEER. Rows of fencing shall be spaced no more than 5 feet apart. Inspection and maintenance of the perimeter erosion barrier shall be considered incidental to the contract. No erosion barrier fence shall be installed such that the roots of mature and desirable tree specimens or sensitive ecological communities shall be adversely impacted without exploring reasonable avoidance alternatives by OWNER and/or ENGINEER. Any conflicts between the erosion barrier fence locations shown on the plans and the location of existing trees shall be resolved at the pre-construction meeting.

SILT FENCE shall be cleaned or replaced as necessary during construction when it becomes clogged or ineffective. The fencing shall be removed only after substantial establishment of cover crop and/or native/turf seeding/planting and with specific authorization by OWNER and/or ENGINEER.

BASIS OF PAYMENT
Payment will be made at the contract unit price per lineal foot for SILT FENCE which price shall include all costs associated with the installation and any necessary relocation of the protection system.

Cleaning and/or replacement of the SILT FENCE will be at the discretion of the Engineer and shall be included in the cost of SILT FENCE.

END OF SPECIAL PROVISION #7

SP-8. INLET PROTECTION

DESCRIPTION
This work shall consist of furnishing all labor, materials, tools and equipment necessary to place inlet and pipe protection for all existing and proposed open lid storm structures as shown on the plans and as directed by the ENGINEER.

Inlet and pipe protection shall meet the requirements of Section 280, except that hay and straw bales shall not be permitted.

If an inlet filter system is used, the system shall be comprised of a corrosion resistant steel frame and a replaceable geotextile sediment bag attached to the frame with a stainless steel locking band. The sediment bags shall be standard woven polypropylene bags with a typical flow rate of 200gpm per sq.ft. The sediment bag shall hang suspended from the rigid frame at a distance below the grate that shall allow full water flow into the drainage structure if the bag is completely filled with sediment.

BASIS OF PAYMENT
Payment will be made at the contract unit price per each for INLET PROTECTION which price shall include all costs associated with the installation and any necessary relocation of the protection system.

END OF SPECIAL PROVISION #8

SP-9. TEMPORARY FENCE

DESCRIPTION
The work shall consist of performing the following items in accordance with the applicable portions of Section 201 of the Standard Specifications (or as applicable), including the protection of existing plant material as hereinafter defined. Vegetation to be saved shall be designated by WETLAND CONSULTANT and OWNER at the preconstruction meeting and agreed upon prior to the commencement of work. Ultimately, all tree and vegetation protection measures shall be reviewed and approved by OWNER and WETLAND CONSULTANT.

DEFINITIONS
A tree is defined as a woody, perennial plant having a single main stem or trunk, the diameter of which is 4 inches or more at a point 4.5 feet above the highest ground level at the base of the tree. Those having a diameter less than 4 inches shall be considered saplings. A multiple-stem tree that forks below the 4.5 foot point of measurement will be considered a cluster of individual trees. A tree that forks at or above the 4.5 foot point of measurement will be considered a single tree. A tree stump with a diameter of 6 inches or more will be considered as a tree.

CONSTRUCTION REQUIREMENTS

All plant material designed to be saved shall be protected prior to the beginning of clearing and shall remain protected during subsequent work.

Parking or maneuvering of machinery, stockpiling of materials, or any other use will not be allowed upon unpaved areas within 10 feet of the root zone of trees or plants designed to be protected unless approved tree protection techniques are utilized. If requested by CONTRACTOR, OWNER will stake or otherwise mark the protection limits.

The TEMPORARY FENCE shall be similar to plastic lathe snow fence, and shall be a minimum of 4 feet high with 6 foot steel "T" posts placed at a maximum of 15 feet apart. This boundary will define the project limit for tree protection and cannot be crossed. Unauthorized access by CONTRACTOR beyond this fencing shall result in an amount of $300.00 per incident and will be deducted from any monies due CONTRACTOR. In addition, any tree damages beyond this fencing, protected or otherwise, shall be deemed a total loss. WETLAND CONSULTANT and OWNER will have a Tree Valuation to be performed by a Certified Arborist to determine the value of the tree and that tree shall be considered a total loss. The valuation of each damaged tree shall also be deducted from any monies due CONTRACTOR.

All pruning shall be done according to the National Arborist Associations Pruning Standards for Shade Trees Class II – Standard Pruning Specifications. Pruning for safety purposes shall be identified and shown on the restoration plans submitted by the CONTRACTOR and as approved or directed by OWNER and/or WETLAND CONSULTANT. Branches on existing plant material to remain that need to be removed for safety or equipment clearance shall be pruned prior to or during the clearing operation. Breaking off branches of plant material to remain during clearing or construction operations will not be allowed.

Materials shall be disposed of according to Article 202.03 of the Standard Specifications.

Tree protection shall include furnishing, installing, and removing this item. Pruning for safety and equipment clearance will not be measured for payment and will be considered incidental to the contract.

BASIS OF PAYMENT

Payment will be made at the contract unit price per lineal foot for TEMPORARY FENCE which price shall include all costs associated with the installation and any necessary relocation of the tree protection system.

END OF SPECIAL PROVISION #9

SP-10. STREET CLEANING

DESCRIPTION

Special attention shall be paid to Section 107.15 of the Standard Specifications. If the CONTRACTOR fails to clean the pavement adjacent to the section under construction to the satisfaction of OWNER and/or ENGINEER at any time during the contract, the OWNER and/or ENGINEER will notify the CONTRACTOR at which time the CONTRACTOR will have 4 hours to respond. If the CONTRACTOR fails to respond within 4 hours, an amount of $500.00 per incident will be deducted from any monies due the CONTRACTOR.

BASIS OF PAYMENT

Street cleaning shall not be paid for separately but shall shall be included in the cost of other items within these documents.

END OF SPECIAL PROVISION #10

SP-11. STABILIZED CONSTRUCTION ENTRANCE

DESCRIPTION

This work shall be in accordance with all applicable portions of Sections 1004 and 1080 of the Standard Specification for Road and Bridge Construction, except as modified herein and on the plans. This work shall consist of furnishing, installation, maintenance, removal and restoration of a stabilized pad of aggregate underlain with filter fabric as shown on the plans or directed by the ENGINEER.

MATERIALS

Materials shall conform to the following:

IDOT Coarse Aggregate Gradation: CA-1.Filter Fabric shall consist of synthetic polymers composed of at least 85 percent by weight polypropylene, polyesters, polyamides, polyethylene, polyolefins, or polyvinylidene-chlorides. The geotextile shall be free of any chemical treatment or coating that significantly reduces its porosity. Fibers shall contain stabilizers and/or inhibitors to enhance resistance to ultraviolet lights. Capping stone may be used by the CONTRACTOR at their own expense.

CONSTRUCTION REQUIREMENTS

The coarse aggregate shall be a thickness of 6 inches or more. The stone entrance should not be filled until the area has been inspected and approved by the ENGINEER.

The rock shall be dumped and spread into place in approximately horizontal layers not more than 1 foot in thickness. It shall be placed in a manner to produce a reasonable homogeneous stable fill that contains no segregated pockets of large or small fragments or large unfilled space caused by bridging of the larger fragments. No compaction will be required beyond that resulting from the placing and spreading operations.

The minimum width and length shall be 20 and 50 feet, respectively, or as designated by site constraints.

All surface water flowing or diverted toward the construction entrance shall be piped across the entrance. Any pipe used for this will be considered incidental to the STABILIZED CONSTRUCTION ENTRANCE.

The entrance shall remain in place and be maintained until the disturbed area is stabilized. Any sediment spilled onto public right of ways must be removed immediately.

Access to work zones shall be via the stabilized construction entrance depicted on the plans. No other access locations will be permitted unless with prior permission from OWNER and ENGINEER. All CONTRACTOR vehicles, equipment and supplies shall be stored at staging areas as identified on the plans.

The CONTRACTOR will be responsible for maintaining the stabilized construction entrance until the completion of the project. Upon completion of the project, the stabilized construction entrance designated on the plans shall be removed by the CONTRACTOR.

The CONTRACTOR shall restore the area to its original grading and condition.

BASIS OF PAYMENT
Payment will be made at the contract unit price per each for STABILIZED CONSTRUCTION ENTRANCE which price shall include all costs associated with the installation, removal, and repair of the stabilization system.

END OF SPECIAL PROVISION #11

SP-12. EARTH EXCAVATION, SPECIAL

DESCRIPTION
EARTH EXCAVATION, SPECIAL shall consist of the excavation, removal, and disposal of existing materials to bring this project site to the proposed sub grade elevations shown on the plans. Removals include earth excavation, existing stumps and roots, and riprap stone removal. This work shall be as specified and in accordance with Sections 202, 205 and 440 of the SSRBC and as specified herein, and in accordance with Illinois Public Act 96-1416 and the Environmental Protection Agency.

The quantity noted for EARTH EXCAVATION, SPECIAL is an estimate provided by the ENGINEER. CONTRACTOR is responsible for verifying the quantity.

BASIS OF PAYMENT
This work shall be paid for at the contract unit price per cubic yard for EARTH EXCAVATION, SPECIAL. The price shall include all necessary labor, material, and equipment needed to perform the work described herein and as specified on the plans. The cost of soil sampling and analysis to comply with Clean Construction or Demolition Debris (CCDD) requirements per Illinois Public Act 96-1416 and the Environmental Protection Agency shall be incidental to EARTH EXCAVATION, SPECIAL.

END OF SPECIAL PROVISION #12

SP-13. RESET 18" CONCRETE PIPE END-SECTION

DESCRIPTION
This work shall consist of all labor, materials and equipment necessary resetting the existing concrete flared end section located approximately at station 12+95. This work shall include removal and reinstallation of the end section, as well as furnishing and placing all bedding materials necessary to properly reset the end section.

BASIS OF PAYMENT
Payment will be made at the contract unit price per each for RESET 18” CONCRETE PIPE END-SECTION which price shall include all costs associated with the removal and installation of the end section, as well as furnishing and placement of any bedding materials.

END OF SPECIAL PROVISION #13

SP-14. RESET CONCRETE OUTLET TOE BLOCK

DESCRIPTION
This work shall consist of all labor, materials and equipment necessary resetting the existing concrete outlet toe blocks for the two concrete end sections located approximately at station 21+74. This work shall include removal and reinstallation of the concrete end sections (if necessary) and removal and reinstallation of the toe blocks, as well as furnishing and placing all bedding materials necessary to properly reset the toe blocks.

BASIS OF PAYMENT
Payment will be made at the contract unit price per each for RESET CONCRETE OUTLET TOE BLOCK which price shall include all costs associated with the removal and installation of the end section and toe block, as well as furnishing and placement of any bedding materials.

END OF SPECIAL PROVISION #14

SP-15. DEWATERING

DESCRIPTION
This work will include all labor, material and equipment necessary to dewater Stuarts Crossing Basin adjacent disturbed areas associated with the shoreline stabilization such that the activities are performed in the dry. The Contractor shall submit a dewatering plan for review by the ENGINEER prior to start of construction.

BASIS OF PAYMENT
This work shall be paid for at the contract lump sum for furnishing all labor, materials, and equipment, including pumps, hosing, dewatering bags, etc, necessary to dewater the pond in accordance with the requirements of these documents.

END OF SPECIAL PROVISION #15

SP-16. ROCK TOE

DESCRIPTION
This work shall consist of obtaining and placing the cobble bank loading material as shown on the plans and details or as directed by the ENGINEER.

Suitable material for the bank loading material shall be or range between or be a mixture of a minimum of 3 inch (a.k.a. #10 River Rock) clean cobble to a maximum of 9 inch clean cobble. Cobble may be comprised of any exclusive size or dominant size or be mixture of size class within the stated suitable material. A representative sample of the Cobble shall be presented for visual inspection to the ENGINEER and OWNER for approval prior to the CONTRACTOR ordering and delivering cobble.

The cobble shall be placed in accordance with the locations and general dimensions as shown on the plans. The width/height of the rock toe may vary from the average 0.3 CY rock per LF.

The purpose of the Rock Toe installation is to stabilize and arrest existing bank erosion and mass soil wasting, reduce sediment loading of the pond, provide a protected bank area, promote aggradation of sediment loading, and provide suitable planting zones for establishing emergent plant communities and associated habitat within the pond edge.

Rock Toe cobble loading shall be generally installed to a bank elevation as denoted in the engineering cross section plans and attenuate in elevation in a supportive slope of a minimum of 3:1 to a maximum of 5:1 into and submerging below pond normal water level. Such general installation description is a guide recognizing the degree of variability of existing bank slope, degree of erosion, and depth of water that will be encountered along the bank.

BASIS OF PAYMENT

This work shall be paid for at the contract unit price per ton for ROCK TOE. The price shall include all necessary labor, material, and equipment needed to install the work described herein and as specified on the plans. Excavation of bank required to place vegetated rock toe at the grade shown on the plans shall be paid for separately.

END OF SPECIAL PROVISION #16

SP-17. STONE OUTCROPPING

DESCRIPTION

The work shall consist of furnishing, transporting and installing all materials required for installation of STONE OUTCROPPING in accordance with Plan Set.

Stones shall be weather edge lannon outcropping stone such as quarried by Halquist Stone, comparable Eden Stone Co. product, or approved equal and shall come from pre-approved, CONTRACTOR-supplied stone sources.

Stones may vary in size but must conform to the following dimensions: 4”-8” thickness, 36”-72” length, 36”-60” width. Stone shall have a minimum acceptable unit weight of 160 pounds per cubic foot.

Acceptable limestone colors are: buff with brown and gray highlights (color to be approved by OWNER). Unacceptable colors are white, dark gray and dark brown.

Acceptable shapes are: generally rectangle without cut or dress marks. Unacceptable shapes and features are: misshapen, triangular, squared, cut dress lines, boring or blast marks. Stone shall be free of sand, silt, clay, rock fines, and other materials not meeting the requirements of this section. Stones shall be free of cracks, seams, weak bedding planes, and other defects that would unduly increase its deterioration from natural forces.

Stones shall be installed under the oversight of a site superintendant with a minimum of three similar projects of 200 lineal feet each of experience installing stone outcroppings. If multiple crews are utilized to set stone, each crew shall have a designated site superintendant with the qualifications above.

The CONTRACTOR is responsible for staking and layout of the stone prior to commencement of work. No construction shall begin prior to OWNER or ENGINEER approval of staking and layout. Prior to ordering, OWNER requires a sample piece of stone for review and approval.

INSTALLATION

Geotextile fabric shall be non-woven 100% polypropylene with a tensile strength of 160 pounds, tear strength of 65 pounds and water flow rate of 90 gallons/minute/square foot (GPM/ft2).

Leveling bed: A well-graded gravel and gravel-sand mixture that contains little or no non-plastic fines. Stone for bedding and backfill shall be 6” deep minimum CA-6 aggregate.

Heavy earthwork equipment should maintain a minimum horizontal distance away from the limestone stacks of 1 foot per foot of vertical wall height. Lighter compaction equipment should be used adjacent to the walls. Where light (e.g., hand) compaction equipment is employed, the maximum lift thickness should be reduced to 6 inches.

The surface on which the geotextile is to be placed shall be constructed to the lines, grades,

and other requirements of Plan Set and specifications, or as specified by the OWNER or ENGINEER. The surface shall be reasonably smooth and free of depressions, soft spots, rills or gullies, as well as stones, sticks, or other irregularities that might tear or puncture the geotextile. The geotextile fabric shall be placed at the locations and in the manner indicated on the drawings of Plan Set, or as directed by the OWNER or ENGINEER. Geotextile shall be laid smooth and free of excess folds or wrinkles, and also free of tensile stress, tears, and unauthorized cuts. Construction equipment shall not operate directly on top of the geotextile. Geotextile damaged during storage or installation shall be replaced by the CONTRACTOR without additional compensation.

Geotextile segments shall be placed with the longest dimension from top to bottom of slopes, unless otherwise directed, and shall be seamed in accordance with the manufacturer's recommendations or overlapped a minimum of 1 foot. Overlaps shall be shingled in the direction of water flows so as to direct the flow over the seam without undermining. Geotextile segment lengths and placement procedures shall consider that the geotextile length required on a slope is longer than the slope length.

Bedding stone shall be placed atop the geotextile fabric to the specified depths/dimensions prior to limestone placement.

The granular backfill shall be compacted to at least 90% of the maximum dry density obtained in accordance with Plan Set, Modified Proctor Method to achieve a desirable balance between minimizing excessive pressures against the limestone stacks and reducing the settlement of the stack backfill where peat is located. Lighter compaction equipment should be used close to the walls. Where light (e.g., hand) compaction equipment is employed, the maximum lift thickness should be reduced to 6 inches.

Stone shall be underlain with geotextile fabric and bedding stone as specified on the drawings in Plan Set and in these Special Provisions.

Stone shall be carefully placed onto the prepared bedding stone base, and shall not be dropped onto geotextile fabric or bedding stone. Any geotextile fabric damaged during stone placement shall be removed and replaced.

Stone shall be carefully placed to the lines, grades, and elevations specified, generally by starting at the lowest elevations and working upwards. Stone shall be installed as shown on the drawings of Plan Set, with top surface of stones level with existing grade or to proposed grade per cross sections. Any stone damaged prior to or during installation shall be replaced at the CONTRACTORS expense.

Placement shall be accomplished in a manner to avoid segregation of stones by size or shape. If necessary, individual stones shall be rearranged at the direction of the OWNER or ENGINEER. Stones shall be securely nested such that individual stones are firmly in contact with adjacent Stones and the finished mass contains the least practical amount of void space.

Individual stone pieces shall be laid level and true. Stone shims shall be installed on the backside of the wall as necessary to prevent rocking or other instabilities of individual pieces.

The sub-surface preparation shall be inspected and approved by the OWNER or ENGINEER prior to placing the geotextile.

Stone shall not be placed until the subgrade surface, geotextile fabric, and bedding stone on

which it is to be placed have been inspected and approved by the OWNER or ENGINEER.

STONE OUTCROPPING shall be accepted if, following a rainfall of 1" within 24 hours, stones are firm to stand or sit on without tipping or shaking.

CONTRACTOR shall level stones until firm and stable when stood on or sat on as determined by the OWNER or ENGINEER.

BASIS OF PAYMENT

This work shall be paid for at the contract unit price per square foot for STONE OUTCROPPING. The price shall include all necessary labor, materials, and equipment needed to install the work described herein and as specified on the plans.

END OF SPECIAL PROVISION #17

SP-18. COIR FIBER ROLL

DESCRIPTION

The work shall consist of furnishing, transporting and installing all materials required for installation of Coir Fiber Roll shoreline stabilization practice in accordance with Plans and specifications.

MATERIALS

Coir fiber rolls shall be 12 inches in diameter and in 10 or 20 foot lengths with a density of 9 pounds per cubic foot. The fibers shall be within a 2 x 2 inch knotted mesh polypropylene netting. Stakes shall be 4x2x36 inch hardwood with the bottom cut at a diagonal to allow driving into the sub grade. Rope shall be ½ inch polypropylene or ¼ inch nylon rope.

Rock may be needed in several areas to support coir fiber roll. Rock range between or be a mixture of a minimum of 3 inch (a.k.a. #10 River Rock) clean cobble to a maximum of 9 inch clean cobble. Cobble may be comprised of any exclusive size or dominant size or be mixture of size class within the stated suitable material. A representative sample of the Cobble shall be presented for visual inspection to the ENGINEER and OWNER for approval prior to the CONTRACTOR ordering and delivering cobble.

EXECUTION

Coir fiber rolls shall be installed into a shallow trench along the toe of the slope with ½ to 1/3 width of the roll above the normal water level.

Ends of adjacent coir rolls shall be tied together with the above referenced rope. Extra loops of rope shall be laced through the outer netting around the entire perimeter of both adjoining coir rolls.

The ends of the coir rolls shall be keyed into the bank by inserting at least 2 lineal feet of the roll into the bank at a 45º angle, staked and backfilled with rock on the upstream side which is also keyed into the bank.

Coir fiber rolls shall be staked per the manufacturer's specifications.

The sub-surface preparation shall be inspected and approved by the OWNER or ENGINEER prior to placing the geotextile.

CONTRACTOR shall provide 48-hour notice to OWNER or ENGINEER prior to inspection.

COIR FIBER ROLLS shall be accepted if, following a rainfall of 1" within 24 hours, soil has not subsided greater than 6" in any of the coir fiber roll applications.

Shoreline plugs shall be installed within the coir fiber roll at and above the Normal Water Level. Plugs will be installed at a rate of 1 plug per linear foot of shoreline.

BASIS OF PAYMENT

This work shall be paid for at the contract unit price per lineal foot for COIR FIBER ROLL. The price shall include all necessary labor, material, equipment, and excavation/disposal of materials needed to install the work described herein and as specified on the plans.

END OF SPECIAL PROVISION #18

SP-19. ROCK OUTLET PROTECTION, 15"

DESCRIPTION

The energy dissipater shall consist of rock placed at inlets and outlets flush with existing grades and trenched in below the channel bottom to reduce velocities.

Prior to ordering or installation, OWNER requires a sample piece of stone for review.

Rock shall be bank-run rounded to sub-rounded and free of any defects that would lead to accelerated weathering. Rock shall conform to IDOT RR4 Class A-6.

Place geotextile filter fabric under all rock. Fasten according to manufacturers specifications. The filter fabric shall not be visible upon completion. Filter fabric shall be non-woven 100% polypropylene with a tensile strength of 160 pounds, tear strength of 65 pounds and water flow rate of 90 gallons/minute/square foot. (GPM/ft2).

Place stones around inlets, outlets and erosion prone areas according to Plan Set.

The trench should be backfilled with the largest stones at the crest and keyed along the bank. The crest shall be flush with the existing streambed elevation per drawings and profiles in Plan Set. Surface should be rough, do not grade smooth.

ROCK OUTLET PROTECTION shall be accepted if, following a rainfall of 1" within 24 hours, stones are firm and have not been displaced by flow.

CONTRACTOR shall place stones until firm and stable as determined by OWNER or ENGINEER.

BASIS OF PAYMENT

Payment shall be measured and paid for at the contract unit price per square yard for ROCK OUTLET PROTECTION, 15". The price shall include all necessary labor, material, equipment, and excavation/disposal of materials needed to install the work described herein, as specified on the plans and as directed by the ENGINEER.

END OF SPECIAL SECTION #19

SP-20. EROSION CONTROL BLANKET

DESCRIPTION

This work shall be in accordance with applicable portions of Section 251 of the Standard Specifications for Road and Bridge Construction, except as modified herein or on the plans.

Erosion control blanket shall be installed in all seeded areas as shown in the plans. The erosion control blanket shall be North American Green S75BN for disturbed areas outside the top of the bank and SC150BN along streambanks as a manufactured by North American Green, Inc. or an approved equal. The blanket shall be placed within 24 hours after seeding operations have been completed on the areas specified. On slopes equal to or steeper than 3:1 (H:V) erosion blanket shall be installed the same day as seeded. Prior to placing the blanket, the areas to be covered shall be relatively free of all rocks or clods over 1.5" in diameter, and all sticks or other foreign material which will prevent the close contact of the blanket with the seed bed. The blanket shall be placed perpendicular to the slope. The top of the blanket shall be toed into the top of slope in a 6" deep trench and backfilled. Secure blanket with non-metal biodegradable hardwood Eco-stake in accordance with manufacture's recommendations or placed not less than at a rate of one stake per square yard (two stakes per square yard for slopes steeper than 2:1, 1.5 stakes per square yard for slopes steeper than 3:1, and 1 stake per square yard for slopes less than 3:1). The blanket shall overlap between 3" and 4" with adjacent blanket. Staples in organic soils shall be a "North American Green 12-inch ECO-Stake" as manufactured by North American Green, Inc. or an approved equal to ensure adequate anchorage in the organic soils. Specific locations may require longer lengths due to unstable soils.

BASIS OF PAYMENT

The price shall include all necessary labor, material and equipment needed to install the work described herein and as specified on the plans. Payment for this item shall be measured and paid for at the contract unit price per square yard for EROSION CONTROL BLANKET and shall include installation and maintenance (re-stapling/staking, replacement, etc.) as required. The square yardage of EROSION CONTROL BLANKET shall be determined by ENGINEER based on field measurements (representative hand measurements and/or GPS) and visual observation.

END OF SPECIAL PROVISION #20

SP-21. RESTORATION

DESCRIPTION

Any onsite areas disturbed by CONTRACTOR activities shall be restored per the instructions of the Final Engineering Plans, Special Provisions or at the direction of ENGINEER. Restoration will be performed to the satisfaction of OWNER and/or ENGINEER at no additional cost to the OWNER. Any restoration required for offsite areas (local roads, R.O.W.s, etc.) as a result of CONTRACTOR negligence, will also be performed at the request and satisfaction of OWNER and/or ENGINEER, without compensation from the OWNER. Final payment will not be released until all areas disturbed by CONTRACTOR have been performed to the satisfaction of the ENGINEER and/or OWNER.

BASIS OF PAYMENT

No separate payment will be made for restoration. Payment for RESTORATION shall either be include in the contract price or already incorporated into the price for individual contract work items.

END OF SPECIAL PROVISION #21

SP-22. WEED CONTROL PRIOR TO PLANTING

DESCRIPTION

The work shall consist of mechanical and chemical control activities to kill and remove if necessary all non-native weeds within the restoration planting area prior to plant installation. Aquatic Glyphosate shall be used to perform weed control. Ninety five percent (95%) kill of these species within the restoration planting zones is required prior to any planting.

Since the site is large and planting will likely span several weeks, weed control prior to planting can be performed in phases. This phasing of weed control shall be completed in sufficient time to allow evidence of an adequate kill to be present prior to plug installation, and shall be timed so that non-native and weedy plants do not have excess time to reemerge prior to completion of planting of the specific phase. If the CONTRACTOR does not achieve a ninety five (95%) kill or reemerge of non-native and weedy plant species occurs prior to completion of plug planting in any phase the CONTRACTOR shall repeat the prescribed activities as necessary to meet performance standards, at no additional cost. The re-treatment(s) shall occur within a time period agreeable to the OWNER and/or WETLAND CONSULTANT, using methods and materials agreeable to the WETLAND CONSULTANT.

It is anticipated that all of the proposed planting area could potentially require weed control prior to planting since these areas may have early spring hydrologic conditions that promote germination of weeds. However, the actual area requiring weed control prior to planting will be determined based on field observation during the spring.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per acre for WEED CONTROL PRIOR TO PLANTING and shall include all labor, equipment, and materials necessary to complete the work as specified herein and on the plans.

The acreage of WEED CONTROL PRIOR TO PLANTING shall be determined by CONTRACTOR based on field measurements (representative hand measurements and/or GPS) and visual observation and approved by VILLAGE and/or ENGINEER. Since weed control success should be evident within a couple of weeks, payment of 100% of contract total sum for WEED CONTROL PRIOR TO PLANTING will be made following visual confirmation that 90% kill of specified species has been achieved. For bidding purposes, the base bid assumes all areas to be seeded and plugged will require WEED CONTROL PRIOR TO PLANTING.

END OF SPECIAL PROVISION #22

SP-23. SEEDING (OF MIX SPECIFIED)

PERMANENT SEEDING SCHEDULE

Permanent seed installation shall be performed immediately in areas where all work is complete. Seeding shall take place before June 10th or after October 15th. Cover crop seed may be installed after these dates but must be mowed and bailed and reseeded with permanent matrix during approved time frame. Approval from the OWNER must be received for all planting dates.

MATERIALS

All seed shall be healthy, and true to species and variety. All materials shall be provided by a certified nursery and shall be free of pests and disease. Materials shall meet the requirements of the following Articles of Section 1000 – Materials:

Item	Article/Section
Seeds	1081.04

The seed mixes shall be supplied in pounds of Pure Live Seed (PLS) for grass species. Native grass and forb seed species will be local genotype and will be from a radius of 150 miles from the site.

Proof of origin shall be presented to the OWNER or WETLAND CONSULTANT at the site prior to any plant installation. Seed will be specified as 'weed free' according to the Association of Official Seed Analysis: Rules for Testing Seeds, Journal of Seed Technology, 1991.

EQUIPMENT

Equipment shall meet the requirements of the following Articles of Section 1100 – Equipment:

Item	Article/Section
Hydraulic Seeder	1101.08(c)
Broadcast Seeders	1101.08(e)
Rangeland Type Drill Seeder	1101.08(g)

SEEDBED PREPARATION

The CONTRACTOR is required to submit seedbed preparation material method in writing to the OWNER one week prior to commencement for approval.

Preparation shall include application of herbicide applied by a licensed herbicide applicator to effectively control weed species without damaging desirable vegetation. The seedbed shall be free of weeds, and seeding shall occur no less than 14 days after herbicide application.

For bare earth seeding, CONTRACTOR shall remove clumps, stones, roots, and sticks prior to seedbed preparation activities. CONTRACTOR shall prepare the seedbed with a disk or unique rake (harrow) to reduce clod size to a maximum diameter of 1-inches and eliminate rivulets, gullies, crusting, and caking. The disk shall be in good condition with sound, unbroken blades and weighted as necessary to achieve a minimum 3-inch tillage depth.

Following disking of all bare earth seeding areas, CONTRACTOR shall prepare the seedbed further with a unique rake or harrow to reduce clod size and create a smooth and level seedbed. Working wet soils shall not be conducted. Following these seedbed preparation activities, the ground surface shall have minimum compaction, be smooth and level, and be free of debris to promote good seed-soil contact.

SEEDING CONDITIONS

CONTRACTOR shall examine the grade, verify the elevations and water levels, observe the conditions under which work is to be performed, and notify the OWNER and/or ENGINEER of unsatisfactory conditions. Proceeding with the work constitutes acceptance of existing conditions, including current water levels and soil condition.

Seed shall not be sown until the seedbed has been approved by the OWNER and WETLAND CONSULTANT.

SEEDING METHODS

No seed shall be sown during high winds, rain events, or when the ground is not in a proper condition for seeding, nor shall seed be sown until the purity test has been completed for the seeds to be used, and shows that the seed meets the noxious weed seed requirements.

For the turf seeding area, all equipment shall be approved by the OWNER and/or ENGINEER prior to being used. Prior to starting work, seeders, trailers, and interseeders shall be cleaned

(free of any previous seed, soil, or plant material, including tires), calibrated and adjusted to sow seeds at the required seeding rate. Equipment shall be operated in a manner to ensure complete coverage of the entire area to be seeded or interseeded.

For the native seeding areas, it is anticipated that seed will be broadcast on the surface using an ATV or by hand due to the limited size and accessibility. Following seeding, the surface will be raked by hand to incorporate the seed into the soil.

SEEDING MIXTURES

Native grass and forb species must be local genotype and be from a radius of 150 miles from the site. The seeding mixtures shall be installed in locations designated on the plan and as directed by the OWNER and/or ENGINEER.

Low Profile Prairie Grasses, Sedges, and Rushes Seeing, Shoreline Seeding, and Transitional Buffer Seeding shall be used.

SPECIES SUBSTITUTIONS

Prior to installation, the OWNER and/or ENGINEER and/or WETLAND CONSULTANT shall review any species substitutions and reserves the authority to deny use of any species if deemed inappropriate for the site. Any species substitutions and/or change in quantity shall be discussed and approved by OWNER and/or WETLAND CONSULTANT during the pre-planting site meetings as specified below. CONTRACTOR shall plan on attending one (1) on-site pre-planting meetings in early spring (anticipated to be in April and/or early May) to evaluate hydrologic conditions and discuss overall plant installation approach. At the pre-planting meeting, CONTRACTOR shall provide a plant installation work plan that documents the anticipated plant installation logistics, plant installation schedule (plant delivery schedule) and any proposed changes to plant species and/or quantities as a result of observed site conditions.

NOTIFICATION & DOCUMENTATION

CONTRACTOR shall notify OWNER and/or ENGINEER at least two working days prior to seed installation and indicate the seed installation method to be used. After completion of seeding, CONTRACTOR shall provide the OWNER and/or ENGINEER with copies of all seed receipts and labels, notated with the date of seed installation, seed origin, % PLS, and conditions under which the seeding was performed.

PERFORMANCE STANDARDS

CONTRACTOR shall meet all applicable seeding performance standards outlined in PERFORMANCE STANDARDS (SP-25).

SEED MATRICES

Low-profile Prairie Grasses, Sedges, & Rushes Seed Mix

Scientific Name	Common Name	PLS Lbs/Acre
Andropogon scoparius	Little Bluestem Grass	2
Bouteloua curtipendula	Side-Oats Grama	4
Eragrostis spectabilis	Purple Love Grass	0.06
Koeleria cristata	June Grass	0.06
Carex brevior	Plains Oval Sedge	0.25
Carex scoparia	Lance-Fruited Oval Sedge	0.13
Elymus canadensis	Canada Wild Rye	3
Elymus virginicus	Virginia Wild Rye	3
Juncus dudleyi	Dudley's Rush	0.02

Juncus torreyi	Torrey's Rush		0.02
Panicum virgatum	Switch Grass		1.5
		Total	**14.04**

Shoreline Seed Mix

Scientific Name	**Common Name**	**PLS Lbs/Acre**
Calamagrostis canadensis	Bluejoint Grass	0.25
Carex comosa	Bristly Sedge	0.50
Carex cristatella	Crested Oval Sedge	0.50
Carex frankii	Bristly Cattail Sedge	0.38
Carex lupulina	Common Hop Sedge	0.63
Carex lurida	Bottlebrush Sedge	1.00
Carex stipata	Common Fox Sedge	0.25
Carex vulpinoidea	Brown Fox Sedge	1.00
Elymus virginicus	Virginia Wild Rye	7.50
Glyceria striata	Fowl Manna Grass	0.13
Juncus effusus	Common Rush	0.25
Leersia oryzoides	Rice Cut Grass	0.25
Panicum virgatum	Switch Grass	0.25
Scirpus atrovirens	Dark Green Rush	0.19
Scirpus pendulus	Red Bulrush	0.06
Scirpus validus	Great Bulrush	0.25
Spartina pectinata	Prairie Cord Grass	0.50
	Total	**13.88**

Transitional Buffer Seed Mix

Scientific Name	**Common Name**	**PLS Lbs/Acre**
Andropogon scoparius	Little Bluestem Grass	15.00
Bouteloua curtipendula	Side-Oats Grama	10.00
Buchloe dactyloides 'BOWIE'	Bowie Buffalo Grass	2.00
	Total	**27.00**

BASIS OF PAYMENT

This work will be paid for at the contract unit price per acre for TEMPORARY COVER CROP SEEDING, LOW PROFILE PRAIRIE GRASSES, SEDGES, & RUSHES SEEDING, SHORELINE SEEDING, and TRANSITIONAL BUFFER SEEDING, and shall include all labor, equipment, and materials necessary to complete the work as specified. Payment of 70% of the contract unit price for all items listed above except TEMPORARY COVER CROP SEEDING will be made following receipt of the documentation specified above (i.e., weekly annotated planting plan and packing slips) and that the planting was completed in accordance with these specifications as approved by VILLAGE and/or ENGINEER. The remaining 30% of the contract unit price will be made once all the applicable three-year performance standards are met (see SP-25, PERFORMANCE STANDARDS special provision). Plant maintenance activities including irrigation and installation and removal of plant protection measures will not be paid for separately, but shall be included in the contract price per plant, and no additional compensation will be allowed.

END OF SPECIAL PROVISION #23

SP-24. NATIVE PLANT PLUGS (OF MIX SPECIFIED)

DESCRIPTION

This work shall consist of furnishing, transporting, and installing the container plants as shown on the Planting Plan drawings and as directed in the field by OWNER and/or WETLAND CONSULTANT. Please note that the planting areas shown on the plans are approximate limits based on anticipated normal water levels, limited bathymetric survey information, aerial imagery and field observations during past drawdown conditions. The limits of the different plant communities will be determined by the CONTRACTOR in the field in cooperation with OWNER, and/or WETLAND CONSULTANT. The Planting will be completed in Spring/Summer 2017.

MATERIALS

All plants shall be container grown and have minimum shoot heights of 12 inches at the time of planting. Unless specified differently in the plant mix tables or upon receiving prior approval from the OWNER and/or WETLAND CONSULTANT, the pot dimensions for plugs shall be at least 2 3/8 inches wide and 3 3/4 inches deep. Soil saturation shall be maintained for all container plants until installation. Plant material shall not be provided as dormant root material (i.e., tubers, rhizomes) or bare root material, except for those species specified in the plant mix tables. Plant material must be local genotype (originally, legally, sourced from a remnant community) from within a radius of 150 miles from the site. Proof of origin shall be presented to the OWNER or WETLAND CONSULTANT at the site prior to any plant installation. All container plant material shall be inoculated with appropriate endo and ecto mycorrhizal fungi. Container plants shall exhibit root growth sufficient to hold all soil intact when removed from container.

PLANTING CONDITIONS

The container plant mixtures shall be installed in locations designated on the plan and/or in which the anticipated average water level is appropriate for the individual plant species. Planting locations must be determined by the CONTRACTOR's Ecologist/Botanist with guidance based from on-site observations and hydraulic data as available and upon request.

During the plant establishment period, CONTRACTOR may need to manually irrigate the planting area(s) to provide suitable hydrologic conditions as needed to sustain the installed plants. At the same time, plant installation is prohibited when water levels are greater than 3" above the anticipated average water levels unless approved by OWNER and WETLAND CONSULTANT. Please note that plant installation may be postponed following a flooding event until water levels return to suitable conditions.

PLANTING TIMING

Planting activities for plants shall be performed between May 1 and June 15 under favorable conditions (i.e., water levels as specified) within two days of delivery. Supplemental watering may be necessary to ensure survival at no additional cost to OWNER.

SPECIES SUBSTITUTIONS

Prior to installation, the WETLAND CONSULTANT and/or OWNER shall review any species substitutions and reserves the authority to deny use of any species or quantity if deemed inappropriate for the site. Any species substitutions and/or change in quantity shall be discussed and approved by OWNER and/or WETLAND CONSULTANT. CONTRACTOR shall provide a plant installation work plan that documents the anticipated plant installation logistics, plant installation schedule (plant delivery schedule) and any proposed changes to plant species and/or quantities as a result of observed site conditions.

NOTIFICATION & DOCUMENTATION

CONTRACTOR shall notify the OWNER and/or WETLAND CONSULTANT two working days

prior to the start of planting activities and all subsequent plant deliveries. All plant material must be approved by the WETLAND CONSULTANT prior to installation to be eligible for payment.

At the start of each week (no later than end of day Tuesday) during the plant installation period, CONTRACTOR shall provide an annotated planting plan exhibit identifying the plant installation areas and associated plant species and quantities that were installed during the previous week. The packing slip documenting the species and quantities installed shall be attached to the provided exhibit.

PLANT PROTECTION MEASURES

CONTRACTOR is responsible for determining appropriate plant protection measures to achieve survivorship standards. If the selected protection measures include staking, CONTRACTOR shall use bio-degradable stakes or other approved reusable stakes. CONTRACTOR shall remove and provide off-site disposal of the planting enclosures after the second growing season, during dormant conditions.

PERFORMANCE STANDARDS

CONTRACTOR shall meet all applicable planting performance standards outlined in PERFORMANCE STANDARDS (SP-25).

PLANT SPECIES

The following list includes the species and quantities that shall be installed by the CONTRACTOR in the planting areas as shown on the plans.

Shoreline Supplemental Plugs

(1 per LF of Coir Fiber Roll)

Scientific Name	Common Name	Quantity
Calamagrostis canadensis	Blue Joint Grass	72
Carex comosa	Bristly Sedge	72
Carex emoryi	Riverbank Sedge	36
Carex frankii	Bristly Cattail Sedge	36
Carex projecta	Loose Headed Oval Sedge	72
Carex stricta	Common Tussock Sedge	72
Eleocharis ovata	Blunt Spike Rush	36
Glyceria striata	Fowl Mana Grass	72
Scirpus pungens	Chairmakers Rush	72
Scirpus validus creber	Great Bulrush	72
	Total	612

Low Profile Grasses, Sedges, & Rushes Supplemental Plugs

(3ft centers throughout Low Profile Grasses, Sedges & Rushes Seeding area)

Scientific Name	Common Name	Total
Andropogon scoparius	Little Bluestem Grass	288
Bouteloua curtipendula	Side Oats Gramma	288
Carex bebii	Bebb's Oval Sedge	324
Carex molesta	Field Oval Sedge	288
Elymus villosus	Silky Wild Rye	324

Eragrostis spectabilis	Purple Love Grass		468
Koeleria cristata	June Grass		468
Sporabolus heterolepis	Prairie Dropseed		468
		Total	2916

Low Profile Prairie with Flowers Plugs

(3ft centers throughout Low Profile Prairie W/ Flowers area)

Scientific Name	**Common Name**	**Total**
Ascepias tuberosa	Butterfly Weed	144
Coreopsis palmata	Prairie Coreopsis	144
Dalea purpureum	Purple Prairie Clover	108
Dodecatheon meadia	Shooting Star	108
Echinacea purpurea	Broad-Leaved Purple Coneflower	180
Eryngium yuccifolium	Rattlesnake Master	108
Geum triflorum	Prairie Smoke	108
Liatris cylindraca	Cylindrical Blazing Star	144
Rudbeckia subtomentosa	Sweet Black-Eyed Susan	144
Ruellia humilis	Hairy Ruellia	144
Sisyrinchium angustifolium	Stout Blue-Eyed Grass	144
Sporabolus heterolepis	Prairie Dropseed	144
Tradescantia ohiensis	Common Spiderwort	144
	Total	1764

BASIS OF PAYMENT

This work will be paid for at the contract unit price per each plant for SHORELINE SUPPLEMENTAL PLUGS, LOW PROFILE GRASSES, SEDGES, & RUSHES SUPPLEMENTAL PLUGS, and LOW PROFILE PRAIRIE WITH FLOWERS PLUGS and shall include all labor, equipment, and materials necessary to complete the work as specified. Payment of 70% of the contract price for this work will be made following receipt of the documentation specified above (i.e., weekly annotated planting plan and packing slips) and that the planting was completed in accordance with these specifications as approved by OWNER and/or WETLAND CONSULTANT. The remaining 30% of the contract lump sum for this work will be made once all the applicable three-year performance standards are met (see SP-25, PERFORMANCE STANDARDS special provision). Plant maintenance activities including irrigation and installation and removal of plant protection measures shall be included in this work.

END OF SPECIAL PROVISION #24

SP-25. PERFORMANCE STANDARDS

DESCRIPTION

Performance standards are established for restoration projects in order to evaluate overall restoration success, to comply with regulatory requirements, and to measure CONTRACTOR compliance with the approved plans and specifications. If performance standards are not achieved, CONTRACTOR shall be responsible for rectifying any deficiencies through additional site management activities, which may include but not limited to re-planting and re-seeding, at

the sole expense of CONTRACTOR.

PERFORMANCE STANDARDS

1. First year: 90% coverage of the cover crop shall be established within the first three months. There shall be no bare areas greater than 0.5 meters. By the end of the first complete growing season, at least 25% of the native planting areas, as measured by aerial coverage, shall consist of native/non-invasive species or those of what was planted in the above list.
2. Second year: At least 50% of the native planting areas shall consist of native/non-invasive species or those of what was planted in the above list. There shall be no bare areas greater than 0.5 meters.
3. Third year: By the end of the third growing season, October 31, 2017, no area throughout the native planting areas greater than 0.5 square meters shall be devoid of vegetation, as measured by aerial coverage. This standard does not apply to emergent and aquatic communities, which must achieve 50 percent cover. At least 75% of the buffer areas shall consist of native/non-invasive species or those of what was planted in the above list. None of the three most dominant species may be non-native or invasive or constitute greater than 25% aerial coverage (individually or cumulatively) by the end of the third growing season, including but not limited to the following species: *Cirsium arvense* (Canada Thistle), *Dipsacus laciniatus* (Cut-leaved Teasel), *Dipsacus sylvestris* (Common Teasel), *Lythrum salicaria* (Purple Loosestrife), *Melilotus alba* (White Sweet Clover), *Phalaris arundinacea* (Reed Canary Grass), *Phragmites australis* (Giant Reed), *Polygonum cuspidatum* (*Fallopia japonica*, Japanese Knotweed), *Rhamnus cathartica* or frangula Buckthorn.

BASIS OF PAYMENT

Performance standards shall not be paid for separately, but shall be included in the cost of other items within these documents.

END OF SPECIAL PROVISION #25

SP-26. ECOLOGICAL MANAGEMENT

DESCRIPTION

The work consists of conducting routine ecological management activities in the restoration/mitigation areas shown on the Planting Plan drawings. At the beginning of each year, CONTRACTOR shall provide a management schedule to the OWNER that specifies the management activities to be conducted during the year.

Appropriate herbicide product shall be utilized for spraying or wicking to eradicate target weeds without damaging adjacent native plants. Glyphosate (Rodeo) or approved equal shall be utilized per manufacturer's recommendations.

EXECUTION

Herbicide shall be applied by State Licensed Operator or Applicator with familiarity and experience conducting weed eradication within natural areas and wetlands. A copy of valid license (State of Illinois Department of Agriculture Pesticide Applicator or Operator) to be provided upon request of OWNER and/or ENGINEER. CONTRACTOR shall perform herbiciding activities necessary to achieve project performance standards (see PERFORMANCE STANDARDS special provision). Weed control may also require manual methods such as supplemental cutting of seed heads prior to seedset for preventing seed reproduction. The herbicide application periods are generally defined as follows:

Early Spring - March 15 – May 1
Early Summer – May 15 to June 30
Late Summer – July 15 to September 1
Fall – September 15 to November 1

The four annual application periods shall consist of, but are not limited to, controlling the following target weed species per each period;

Target Species	Early Spring	Early Summer	Late Summer	Fall
Red/white clover	☒	☐	☐	☒
Reed canary grass	☒	☐	☐	☒
Garlic mustard	☒	☐	☐	☒
Field/bull thistles	☐	☒	☐	☐
Cattails	☒	☐	☒	☐
White/yellow sweet clover	☐	☒	☐	☐
Teasel	☐	☒	☐	☐
Common reed	☐	☐	☒	☒
Sandbar willow	☒	☐	☐	☒
Purple Loosestrife	☐	☒	☐	☐
Other_____	☐	☐	☐	☐
Other_____	☐	☐	☐	☐

PERFORMANCE STANDARDS
CONTRACTOR shall meet all applicable ecological management performance standards outlined in PERFORMANCE STANDARDS special provisions.

BASIS OF PAYMENT
This work shall be paid for at the contract unit price per year for ECOLOGICAL MANAGEMENT. The annual unit price shall include all necessary labor, material and equipment needed to perform the work described herein and as specified on the plans. For partial payment of lump sum amount during the year, CONTRACTOR shall provide summary memo with invoice to document that management work effort performed during the invoicing period appropriately reflects invoice amount.

END OF SPECIAL PROVISION #26

SP-27. MOWING

DESCRIPTION
Work included in this section will consist of mowing of the entire restoration site (if able and as needed to control invasive species) with the exception of the areas planted with plugs.

EXECUTION
Mowing shall occur during the growing season to maintain weed control within the project site. CONTRACTOR will only mow herbaceous plant material to encourage native plant growth. All small trees and shrubs within the site area will be protected and replaced if damaged as noted. The mower shall be a tractor driven flail-type shredder or mower and shall have allowable cutting heights ranging from at least 3 inches to 18 inches. The mow height shall increase as the growing season of each year progresses with the mow height to be verified by the WETLAND CONSULTANT and the OWNER prior to mowing.

Clean Up: The work area shall be kept free of debris by the CONTRACTOR. At no time shall empty herbicide containers, trash, or other material be allowed to accumulate at the project site. All tools shall be kept in appropriate carrying cases, tool boxes, etc. Parking areas, roads, sidewalks, paths, and paved areas shall be kept free of mud and dirt.

Repair: Repair any damages caused by the CONTRACTOR during completion of the work described in this Section. Said damages may include, but are not limited to, tire ruts in the ground, damage to lawn areas, damage to trails, etc. In the event any vegetation outside of targeted areas is damaged, notify the WETLAND CONSULTANT and the OWNER within 24 hours. The CONTRACTOR shall be liable for remedying said damages to plug materials at a rate of 1 to 1 replacement.

COMPLETION AND ACCEPTANCE

Provisional acceptance: the work shall be provisionally accepted by the WETLAND CONSULTANT and the OWNER after mowing is completed per the given specifications, and the CONTRACTOR has completed all clean up, removal, and repair as described in this section. Herbaceous species removal shall be considered 90% complete each year at the time of provisional acceptance.

The CONTRACTOR is required to mow 100% of the total live herbaceous vegetation three times before October 15th of each year. Acceptance will be at the discretion of the WETLAND CONSULTANT and the OWNER.

BASIS OF PAYMENT

This work shall be paid for at the contract unit price per year for MOWING and shall include all necessary labor, material and equipment needed to perform the work described herein and as specified on the plans. For partial payment of lump sum amount during the year, CONTRACTOR shall provide summary memo with invoice to document that management work effort performed during the invoicing period appropriately reflects invoice amount.

END OF SPECIAL PROVISION #27

SP-28. PRESCRIBED BURNING

DESCRIPTION

Prescribed burning shall occur within restored areas to remove the detritus to facilitate better seed to soil contact and native seedling establishment. The prescribed fire shall occur in the third growing season following natural area seeding. Prescribed Burning shall include, but is not limited to, execution of prescribed burns, burn break preparation, mop up, preparation of burn plans, post burn report with map(s) of unit(s), obtaining appropriate permits and approvals from local governments and fire districts, notifying appropriate parties, keeping a log of all notifications required especially Fire Departments, Law Enforcement Agencies, elected officials, and effected neighbors for any prescribed burn conducted.

Permit Requirements: The OWNER has not secured an IEPA Open Burning Permit for the burning. All required permits are the responsibility of the CONTRACTOR. Notification of Fire Department and Law Enforcement Agencies are the responsibility of the CONTRACTOR.

Burn Training: All personnel working on the prescribed burn for the contractor shall have successfully completed the National Wildfire Coordinating Group S/130 and S/190 training courses or the Chicago Wilderness Midwest Ecological Prescription Burn Crew Member training course. Each prescribed burn shall require a Burn Boss. The Burn Boss at minimum shall have a valid Illinois Certified Prescribed Burn Manager Certificate issued by IDNR and successfully completed NWCG S290 training.

Notification: CONTRACTOR shall be responsible for coordinating with and notifying all neighboring contacts associated with the prescribed burn.

General Conditions For Prescribed Burns: Burns in most cases, shall not be started prior to 10:00 am and must be substantially extinguished by 4:00 pm. The OWNER shall have the final say for approving burn plans, proceeding or canceling, including while in progress, any prescribed burns along with designating areas or hazards that may need complete mop-up. The goal of mop-up shall be to avoid adverse conditions affecting roadways and or adjacent neighbors by discontinuing smoke generated by the burn unit and assuring further ignition shall not recur. The degree of mop-up may be influenced by current or anticipated weather conditions, and may be directed by the OWNER as needed per site. The CONTRACTOR shall submit a burn plan using the OWNER forms and format. It shall be the Contractor's responsibility to follow the protocol on this form and make all contacts. The National Oceanic Atmospheric Administration (NOAA) shall be used as the official weather data source.

Ignition and Prescribed Burning may commence only upon the notification and approval of the OWNER. Open burning is prohibited on orange or worse "Air Quality Index" (AQI) or "Air Pollution Alert" days. Prescribed Burn may be ignited when prevailing winds are between 5 and 25 mph and Relative Humidity is 35% or greater. Ignition and burning may only occur under conditions other than those described above at the OWNER.

At no time shall the Prescribed Fire produce adverse effects, including, but not limited to smoke, fire, or heat impacts on structures, property, roadways, trails, the public, neighbors, or aeronautics.

Labor, Equipment & Methods: All fire breaks shall be constructed using hand or power tools, or other equipment deemed necessary and appropriate as approved by the OWNER.

BURN SIGNS

The CONTRACTOR shall notify residents and businesses within ¼ mile radius from site and post signs around site one week prior to burn. The CONTRACTOR may provide signage, however said signage must be approved by the DPM.

CONTRACTOR shall prepare all fire control lines needed. All prescribed burn site preparation shall be done in a manner that minimizes damage to native vegetation and soils. Natural fire breaks, wet lines, or Class A foam is the preferred method. Except as needed for emergency fire containment, scraped fire breaks shall not be used. If scraped fire breaks must be used, they will be revegetated by the CONTRACTOR at no additional cost. CONTRACTOR shall establish firebreaks and/or wet lines as appropriate to protect structures, standing snags, and nest boxes. If nest boxes are removed prior to burning, they shall be reinstalled after completion of the burn.

PERFORMANCE STANDARD

Burn coverage is to be at least 80 percent of areas designated for controlled burn. Burn coverage shall be considered complete removal of detritus down to the soil within burn areas or as approved by OWNER. If special burn measures such as reigniting unburned areas, reburn of certain areas, possibly on different days, to remove remaining detritus may be needed to achieve this goal.

PRE-BURN SUBMITTAL REQUIREMENTS

Copies of the permits and all documents submitted to secure burn permits are to be provided to the OWNER are to include 1) a detailed site plan indicating the exact area of the burn, all adjacent property boundaries, all structures and uses within 50 feet of the boundaries of the

burn area, and the location of natural and planned fire breaks and 2) the name and qualifications of the burn leader. The burn plan shall require approval of the OWNER prior to ignition. The CONTRACTOR shall also keep a log of all notifications to the required Fire Departments and Law Enforcement Agencies, unless otherwise specified by the WETLAND CONSULTANT.

POST BURN REPORT

Within 72 hours of the controlled burning, the applicant must file a burn report with the PROJECT LOCAL SPONSOR stating whether the burn took place, whether the purpose was accomplished, whether the burn exceeded the specified area, whether any damage occurred, the extent of the damage, and where damage occurred.

If during the prescribed burning, whether the Contractor is onsite or not, there is found to be excessive smoke and/or fire that requires an emergency response of either the District personnel or any emergency personnel as a result of the Contractor's work, the Contractor shall be liable to OWNER, not as a penalty but as liquidated damages, in the amount of $1,000.00 per occurrence for each and every occurrence. The Local Sponsor will deduct the amount of liquidated damages from any monies due or to become due Contractor.

Field inspections for Prescribed Burn will be done by OWNER from 0 to 10 days, or as needed, after the CONTRACTOR has certified meeting bid specifications. Percent burn coverage shall be determined by ocular estimate by the WETLAND CONSULTANT and OWNER. If specified rates for Prescribed Burn coverage are not achieved, the CONTRACTOR shall repeat the prescribed activities as necessary to meet performance standards, at no additional cost. The re-treatment(s) shall occur within a time period agreeable to the OWNER and/or WETLAND CONSULTANT, using methods and materials agreeable to the WETLAND CONSULTANT.

If during inspection by the OWNER or WETLAND CONSULTANT, there is found to be excessive negative impact to native species or damage to OWNER property as a result of the CONTRACTOR's work, the CONTRACTOR shall be required to implement a OWNER-approved restoration plan and/or liquidated damages will be assed at the sole cost to the CONTRACTOR.

BASIS OF PAYMENT

This work shall be measured after completed and paid for at the contract unit price per acre for PRESCRIBED BURN, which payment shall constitute full compensation for all materials, labor, local permits and equipment necessary to complete the Work as specified.

END OF SPECIAL PROVISION #28

SP-29. GOOSE HERBIVORY PROTECTION

This work will include the installation, maintenance, and removal of planter fence installed around the NATIVE PLANT PLUGS for protection from all herbivory. All work, materials, and equipment shall be in accordance with Section 665 of the Standard Specifications except as modified herein. The areas are designated on the plans as SHORELINE SUPPLEMENTAL PLUGS, LOW PROFILE GRASSES, SEDGES, & RUSHES SUPPLEMENTAL PLUGS, and LOW PROFILE PRAIRIE W/FLOWERS PLUGS.

MATERIALS

Planter Fence shall be a minimum of 18" in height and consist of galvanized steel chicken wire fencing with a maximum opening size not to exceed 1". The corners of the planter fence shall

consist of 1.5-inch square wooden stakes, 24 inches minimum height, to allow for 6 to 8 inches to be pounded into the soil. A 30 pound monofilament line shall be weaved between the wooden stakes 1 inch from the top to cover the planted area. The wooden stakes should be placed approximately 8 feet apart, and the fence should be a maximum of 20 feet wide.

SCHEDULE

This work shall be completed during Year 1 of the maintenance and monitoring coinciding with plug planting operations.

GENERAL REQUIREMENTS

The Planter Fence shall be installed around the areas designated on the plans as SHORELINE SUPPLEMENTAL PLUGS, LOW PROFILE GRASSES, SEDGES, & RUSHES SUPPLEMENTAL PLUGS, and LOW PROFILE PRAIRIE W/FLOWERS PLUGS planting prior to the installation of the plantings or as directed by the Engineer. Planter Fence will be maintained in an upright condition until instructed by the Engineer to remove and dispose of the fence.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per acre for GOOSE HERBIVORY PROTECTION. The price shall include all necessary labor, material, and equipment needed to install the work described herein and as specified on the plans.

END OF SPECIAL PROVISION #29